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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Kazuyuki MATSUMOTO et al. )  
SERIAL NO: 10/007,834 ) Group Art Unit: 1733  
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TITLE: METHOD AND APPARATUS FOR MANUFACTURING A LENS  
SHEET

AMENDED CLAIMS

1. (currently amended) A method for manufacturing a lens sheet, comprising:

a resin-application step for applying ionizing radiation curing type resin in a form of liquid on an entirety of an upper surface of a forming mold, while pouring the ionizing radiation curing type resin in a form of threads from one side of said forming mold to another side thereof, to form an uncured resin layer on the upper surface of said forming mold;

a laminating step for putting a substrate in an inclined state relative to the upper surface of said forming mold, then placing the substrate on said uncured resin layer and then pressing said substrate against said uncured resin layer by means of a pressing roller;

a curing step for irradiating ionizing radiation on said uncured resin layer through said substrate to cure said uncured resin layer, thereby forming a cured resin layer; and

a removing step for removing said cured resin layer together with said substrate from said forming mold.

2. (original) The method as claimed in claim 1, wherein:

the pressing of said laminating step comprises continuously pressing said substrate from said one side of the forming mold to an other side thereof, said one side of the forming mold serving as a pressing-starting side; and

there is carried out, after said resin-application step and before said laminating step, a partial-surface application step for applying the ionizing radiation curing type resin on a part of said uncured resin layer on said pressing-starting side to form a uncured resin pool thereon.

3. (original) The method as claimed in claim 1, further comprising: a mold-temperature adjusting step for adjusting temperature of the forming mold to a prescribed temperature, which is suitable to formation of a lens sheet, said mold-temperature adjusting step being followed by said resin-application step.

4. (original) The method as claimed in claim 2, further comprising: a mold-temperature adjusting step for adjusting temperature of the forming mold to a prescribed temperature, which is suitable to formation of a lens sheet, said mold-temperature adjusting step being followed by said resin-application step.

5. (original) The method as claimed in claim 3, wherein: said resin-application step, said laminating step, said curing step and said removing step are carried out on a traveling passage of an endless conveying device for conveying the forming mold, and said mold-temperature adjusting step is carried out on a returning

passage of said endless conveying device.

6. (original) The method as claimed in claim 4, wherein: said resin-application step, said laminating step, said curing step and said removing step are carried out on a traveling passage of an endless conveying device for conveying the forming mold, and said mold-temperature adjusting step is carried out on a returning passage of said endless conveying device.

7. (currently amended) An apparatus for manufacturing a lens sheet comprising:

~~a nozzle~~ plurality of nozzles for applying ionizing radiation curing type resin in a form of liquid on an upper surface of a forming mold, while pouring the ionizing radiation curing type resin in a form of threads from one side of said forming mold to another side thereof, to form an uncured resin layer on the upper surface of said forming mold;

a substrate supply device for putting a substrate in an inclined state relative to the upper surface of said forming mold and placing the substrate on said uncured resin layer;

a pressing roller for pressing said substrate against said uncured resin layer;  
and

an irradiation device for irradiating ionizing radiation on said uncured resin layer through said substrate to cure said uncured resin layer.

8. (original) The apparatus as claimed in claim 7, further comprising: an additional nozzle for applying the ionizing radiation curing type resin on a part of said uncured resin layer to form a uncured resin pool thereon.

9. (original) The apparatus as claimed in claim 7, further comprising: a mold-temperature adjusting device for adjusting temperature of the forming mold to a prescribed temperature, which is suitable to formation of a lens sheet.

10. (original) The apparatus as claimed in claim 8, further comprising: a mold-temperature adjusting device for adjusting temperature of the forming mold to a prescribed temperature, which is suitable to formation of a lens sheet.

11. (currently amended) The apparatus as claimed in ~~claim 7~~ claim 9, wherein: said ~~nozzle~~ nozzles, said substrate supply device, said pressing roller and said irradiation device are provided on a traveling passage of an endless conveying device for conveying the forming mold, and said mold-temperature adjusting device is provided on a returning passage of said endless conveying device.

12. (currently amended) The apparatus as claimed in claim 8, wherein: said ~~nozzle~~ nozzles, said substrate supply device, said pressing roller and said irradiation device are provided on a traveling passage of an endless conveying device for conveying the forming mold, and ~~said~~ further comprising a mold-temperature adjusting device is provided on a returning passage of said endless conveying device.

13. (currently amended) The apparatus as claimed in claim 9, wherein: said ~~nozzle~~, nozzles said substrate supply device, said pressing roller and said irradiation device are provided on a traveling passage of an endless conveying device for conveying the forming mold, and said mold-temperature adjusting device is provided on a returning passage of said endless conveying device.

14. (currently amended) The apparatus as claimed in claim 10, wherein: said

~~nozzle~~-nozzles, said substrate supply device, said pressing roller and said irradiation device are provided on a traveling passage of an endless conveying device for conveying the forming mold, and said mold-temperature adjusting device is provided on a returning passage of said endless conveying device.

15. (original) The apparatus as claimed in claim 7, wherein: said substrate supply device supplies the substrate in synchronization with traveling of the forming mold, which is caused by driving of the traveling passage of said endless conveying device.

16. (original) The apparatus as claimed in claim 8, wherein: said substrate supply device supplies the substrate in synchronization with traveling of the forming mold, which is caused by driving of the traveling passage of said endless conveying device.

17. (original) The apparatus as claimed in claim 9, wherein: said substrate supply device supplies the substrate in synchronization with traveling of the forming mold, which is caused by driving of the traveling passage of said endless conveying device.

18. (original) The apparatus as claimed in claim 10, wherein: said substrate supply device supplies the substrate in synchronization with traveling of the forming mold, which is caused by driving of the traveling passage of said endless conveying device.

19. (original) The apparatus as claimed in claim 11, wherein: said substrate supply device supplies the substrate in synchronization with traveling of the forming mold,

which is caused by driving of the traveling passage of said endless conveying device.

20. (original) The apparatus as claimed in claim 12, wherein: said substrate supply device supplies the substrate in synchronization with traveling of the forming mold, which is caused by driving of the traveling passage of said endless conveying device.

21. (original) The apparatus as claimed in claim 13, wherein: said substrate supply device supplies the substrate in synchronization with traveling of the forming mold, which is caused by driving of the traveling passage of said endless conveying device.

22. (original) The apparatus as claimed in claim 14, wherein: said substrate supply device supplies the substrate in synchronization with traveling of the forming mold, which is caused by driving of the traveling passage of said endless conveying device.